

Appl. No. 09/880,174
Amdt. dated Jun. 15, 2004
Reply to Office action of Dec. 15, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A blade tensioner for applying tension to a chain, the blade tensioner comprising:

a blade shoe having a first face and an opposing second face, the first face having a chain sliding surface on which the chain is slidable;

at least two adjacent blade springs disposed on the second face of the blade shoe for applying a spring force to the blade shoe, the adjacent blade springs having opposing surfaces slidable relative to each other; and

a friction surface between the opposing surfaces of the adjacent blade springs, the friction surface selected to [increase the] provide a coefficient of friction between the friction surface and the adjacent blade springs [relative to] greater than the coefficient of friction between the opposing surfaces of the adjacent blade springs without the friction surface, increasing sliding resistance therebetween effective to damp vibrations of the tensioner.

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Claim 2 (Original): A blade tensioner in accordance with Claim 1, wherein the friction surface comprises a plate-like member extending in the length direction of the blade springs and is provided independently from the blade springs.

Claim 3 (Original): A blade tensioner in accordance with Claim 1, wherein the friction surface comprises a plate-like member extending in the length direction of the blade springs and attached to at least one blade spring through bonding or welding.

Claim 4 (Original): A blade tensioner in accordance with Claim 1, wherein the friction surface comprises a plurality of members extending in the length direction of the blade springs and attached to at least one blade spring through bonding or welding.

Claim 5 (Original): A blade tensioner in accordance with Claim 2, wherein bumpy surfaces are created on contact faces between the friction surface and at least one blade spring.

Claim 6 (Original): A blade tensioner in accordance with Claim 3, wherein bumpy surfaces are created on contact faces between the friction surface and at least one blade spring.

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Claim 7 (Previously Amended): A blade tensioner in accordance with Claim 1, wherein the friction surface is configured using rubber, plastic, or friction paper.

Claim 8 (Previously Amended): A blade tensioner in accordance with Claim 2, wherein the plate-like member is configured using rubber, plastic, or friction paper.

Claim 9 (Previously Amended): A blade tensioner in accordance with Claim 3, wherein the plate-like member is configured using rubber, plastic, or friction paper.

Claim 10 (Previously Amended): A blade tensioner in accordance with Claim 4, wherein the members are configured using rubber, plastic, or friction paper.

Claim 11 (Previously Amended): A blade tensioner in accordance with Claim 5, wherein the bumpy surfaces are configured using rubber, plastic, or friction paper.

Claim 12 (Currently Amended): A set of spring blades for urging a blade shoe of a tensioner against a chain to apply tension to the chain, the set of spring blades comprising:

a first blade spring having an upper and a lower planar surface;

a second blade spring having an upper and a lower planar surface disposed below the first blade spring, the lower planar surface of the first blade spring and the upper planar surface of the second blade spring slidable relative to each other; and

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a friction surface disposed between the lower planar surface of the first blade spring and the upper planar surface of the second blade spring providing a coefficient of friction ~~selected to increase sliding resistance there between effective to damp vibrations of the tensioner~~, the coefficient of friction ~~provided by~~ between the blade springs and the friction surface differing from being larger than the coefficient of friction between the lower planar surface of the first blade spring and the upper planar surface of the second blade spring without the friction surface.

Claim 13 (Original): A set of blade springs according to Claim 12 wherein the friction surface is formed on at least one of the blade springs.

Claim 14 (Original): A set of blade springs according to Claim 12 wherein the friction surface comprises a friction plate disposed between the blade springs.

Claim 15 (Original): A set of blade springs according to Claim 14 wherein the friction plate is attached to at least one of the blade springs.

Claim 16 (Original): A set of blade springs according to Claim 12 wherein the friction surface comprises a plurality of transverse members disposed between the blade springs.

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Claim 17 (Original): A set of blade springs according to Claim 16 wherein at least one of the plurality of transverse members is attached to at least one of the blade springs.

Claim 18 (Previously Amended): A set of blade springs according to Claim 12 wherein the blade shoe comprises a chain sliding face against which the chain is slidable, and the blade springs are disposed between slots formed on a face of the blade shoe opposite the chain sliding face.

Claim 19 (Original): A set of blade springs according to Claim 18 wherein a base is provided for pivotably mounting a first end of the blade shoe.

Claim 20 (Original): A set of blade springs according to Claim 19 wherein a second end of the blade shoe is freely slidable upon the base.

Claim 21 (Currently Amended): A method of applying tension to a chain with a blade tensioner, the method comprising:

providing a base having a sliding surface formed thereon;

pivotably attaching a first portion of a blade shoe to the base, the blade shoe having a chain sliding face and an opposing face opposite the chain sliding face, the blade shoe having a second portion slidable upon the base sliding surface;

biasing the blade shoe against the chain with at least two adjacent blade springs

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disposed on the opposing face of the blade shoe, the adjacent blade springs having contact surfaces slidable relative to each other;

damping vibrations of the tensioner with a friction surface disposed between the contact surfaces of the adjacent blade springs providing a coefficient of friction therebetween, the coefficient of friction between the friction surfaces and the blade springs being greater than the coefficient of friction of between the blade spring contact surfaces without the friction surface.

Claim 22 (Original): A method of applying tension to a chain according to Claim 21, including forming the friction surface on the contact surface of at least one of the adjacent blade springs.

Claim 23 (Original): A method of applying tension to a chain according to Claim 21, including forming the friction surface on a friction plate disposed between the contact surfaces of the adjacent blade springs.

Claim 24 (Original): A method of applying tension to a chain according to Claim 23, including attaching the friction plate to at least one of the contact surfaces of the adjacent blade springs.

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Claim 25 (Original): A method of applying tension to a chain according to Claim 21, wherein the friction surface comprises a plurality of transverse members disposed between the contact surfaces of the adjacent blade springs.

Claim 26 (Original): A method of applying tension to a chain according to Claim 25, wherein at least one of the plurality of transverse members is attached to at least one of the contact surfaces of the adjacent blade springs.